

Amendments to the Claims:

Claims 1-7, 9-13 and 15-18 are pending in this application. Claim 1 is independent. By this Amendment, claims 3, 9, 13 and 17 are cancelled. Claims 1, 4, 5, 11 and 15 are amended. New claims 19-25 are added. No new matter has been added by this Amendment.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (CURRENTLY AMENDED): An optical modulation element capable of forming a reflective diffraction grating in which heights of a plurality of elements each having a reflecting surface periodically change,

wherein the reflecting surface of at least one of the plurality of elements is supported in a length direction by a piezoelectric element when driven in a direction of height by the piezoelectric element,

wherein the plurality of elements are respectively provided with the piezoelectric element where the polarities of electric fields of which are alternately different from each other.

2 (ORIGINAL): An element according to claim 1, wherein the plurality of elements each having the reflecting surface are two-dimensionally arrayed by juxtaposing long sides.

3 (CANCELLED):

4 (CURRENTLY AMENDED): An element according to claim ~~3~~ 1, wherein a rear surface

side of an effective reflecting portion of each of the elements is fixed to the piezoelectric element.

5 (CURRENTLY AMENDED): ~~An element according to claim 1~~ An optical modulation element capable of forming a reflective diffraction grating in which heights of a plurality of elements each having a reflecting surface periodically change,

wherein the reflecting surface of at least one of the plurality of elements is supported in a length direction by a piezoelectric element when driven in a direction of height by the piezoelectric element,

wherein a deformation amount of a projecting or recessed shape of each element is changed by adjusting a voltage to be impressed to the piezoelectric element, thereby controlling an intensity of reflected light.

6 (ORIGINAL): An element according to claim 1, wherein when the reflecting surfaces of the plurality of elements are substantially flush with each other, said reflecting surfaces act as a flat mirror as a whole.

7 (ORIGINAL): An element according to claim 1, wherein each of the elements is a strip-shaped element having a width of about 5 μ m.

8-9 (CANCELLED):

10 (PREVIOUSLY PRESENTED): A projection apparatus including an optical modulation element for modulating incident light in accordance with a video signal, wherein the optical modulation element is formed from said optical modulation element of claim 1.

11 (CURRENTLY AMENDED): An element according to claim 3 1, wherein pixels each formed from the plurality of elements are arranged in a two-dimensional array.

12 (PREVIOUSLY PRESENTED): An element according to claim 5, wherein pixels each formed from the plurality of elements are arranged in a two-dimensional array.

13-14 (CANCELLED):

15 (CURRENTLY AMENDED): A projection apparatus including an optical modulation element for modulating incident light in accordance with a video signal, wherein the optical modulation element is formed from said optical modulation element of claim 3 1.

16 (PREVIOUSLY PRESENTED): A projection apparatus including an optical modulation element for modulating incident light in accordance with a video signal, wherein the optical modulation element is formed from said optical modulation element of claim 5.

17 (CANCELLED):

18 (PREVIOUSLY PRESENTED): A projection apparatus including an optical modulation element for modulating incident light in accordance with a video signal, wherein the optical modulation element is formed from said optical modulation element of claim 9.

19 (NEW): An element according to claim 5, wherein the plurality of elements each having the reflecting surface are two-dimensionally arrayed by juxtaposing long sides.

20 (NEW): An element according to claim 5, wherein a rear surface side of an effective reflecting portion of each of the elements is fixed to the piezoelectric element.

21 (NEW): An element according to claim 5, wherein when the reflecting surfaces of the plurality of elements are substantially flush with each other, said reflecting surfaces act as a flat mirror as a whole.

22 (NEW): An element according to claim 5, wherein each of the elements is a strip-shaped element having a width of about $5\mu\text{m}$.

23 (NEW): A projection apparatus including an optical modulation element for modulating incident light in accordance with a video signal, wherein the optical modulation element is formed from said optical modulation element of claim 5.

PATENT

Application Serial No. 09/841,282
Amendment dated January 20, 2004
Reply to Office Action of August 26, 2003
Docket No. 1232-4709

24 (NEW): An element according to claim 5, wherein said plurality of elements are respectively provided with the piezoelectric element where the polarities of electric fields of which are alternately different from each other.

25 (NEW): An element according to claim 1, wherein a deformation amount of a projecting or recessed shape of each element is changed by adjusting a voltage to be impressed to the piezoelectric element, thereby controlling an intensity of reflected light.